

DR. DENNIS GONSALVES
DIRECTOR
US PACIFIC BASIN AGRICULTURAL RESEARCH CENTER
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Dr. Dennis Gonsalves joined the U.S. Pacific Basin Agricultural Research Center, U.S. Department of Agriculture, as Director, after retiring from Cornell University in 2002. The Research Center aims to strengthen agriculture in Hawaii and the Pacific Basin in an environmentally acceptable and sustainable manner. Among the Center's focus are managing and developing of tropical plant genetic resources, developing new technologies and germplasm for improving crop productivity by reducing physiological and disease constraints; developing and demonstrating appropriate strategies for managing crop pests, providing economically viable technologies for controlling quarantine pests, ensuring product quality and safety, and increasing economic returns. Dr. Gonsalves whose primary research is on viral diseases of papaya and other crops was promoted to super-grade scientist status in 2004.

Background and Education Born and raised on a sugar plantation in Kohala, Hawaii, Dr. Gonsalves received his B.S. in Horticulture in (redacted) and his M.S. in Plant Pathology in (redacted) from the University of Hawaii. He obtained his Ph.D. in Plant Pathology from the University of California at Davis in (redacted). From 1972-77, he was an Assistant and Associate Professor at the University Florida. He was recruited by Cornell University in 1972, advancing to the endowed position of Liberty Hyde Bailey Professor in 1995.

Research and Outreach to Thailand Dr. Gonsalves has always had an interest in papaya and in helping people of developing countries. In 1986, he was invited by Khun Vilai Prasartsee of the Thailand Department of Agriculture (DOA) to help control papaya ringspot virus that was causing severe damage to papaya in Northeast Thailand. This research with Khun Vilai Prasartsee resulted in the development of the tolerant variety Tha Pra 2 that has been distributed throughout Thailand. Concurrently in 1986, he led a research group to control papaya ringspot virus in Hawaii through the development of virus-resistant papaya using genetic engineering. The group developed the world's first virus-resistant papaya in 1991 and the papaya was released to growers in 1998. Before the release of the transgenic papaya, papaya ringspot virus had reduced Hawaii's papaya production by 50%. The transgenic 'Rainbow' papaya has virtually saved the Hawaiian papaya industry from almost total demise. The transgenic papaya is commonly consumed in Hawaii and the mainland US.

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In 1994, at the request of the Thailand Ministry of Agricultural Cooperatives (MOAC), Dr. Gonsalves started a joint program to develop virus-resistant transgenic papaya for Thailand. By 1997, the transgenic papaya was being tested in Thailand by DOA. The transgenic papaya has excellent resistance to papaya ringspot virus, is of high quality, and is suitable for Thailand. This work in Thailand is being led by Khun Vilai Prasartsee with whom Dr. Gonsalves (considers the best papaya researcher in Thailand) has worked since 1986. Dr. Gonsalves has also extended his transgenic papaya work to help the Venezuela, Jamaica, Brazil, and Bangladesh. The project in Bangladesh is aimed at providing the rural poor a readily available source of vitamins.

Publications, Fellowships, and Awards

Dr. Gonsalves is the author of 257 publications and is the holder of 22 patents. He was elected a fellow of the American Phytopathological Society in 1991 and won numerous awards for his work, especially on papaya. In 2003, he and his research team that developed the transgenic papaya for Hawaii were awarded the Alexander Von Humbolt Award. For his outreach work to developing countries, Dr. Gonsalves received the American Society of Plant Biologist 2003 Leadership in Science Public Service Award. His other numerous awards include: 2003 B. Y. Morrison lecturer award, 2004 Federal Laboratory Consortium for Technology Transfer Award, and the 2004 USDA Group Award for Excellence--a prestigious U.S. Government award for the most significant agricultural achievement in the US in the last 5 years. *Previous awardees were Norman Borlaug, Ingo Protrykus, Gordon Conway, and Senator Christopher Bond.*